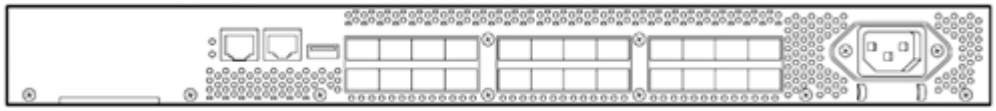
Overview

The 8/8 Base SAN Switch and 8/8 SAN Switch are targeted for small to medium sized enterprises and are ideal for entry-level SANs, and as an edge switch for core-to-edge SAN environments. The 8/8 Base SAN Switch and 8/8 SAN Switch provide SAN connectivity that simplifies IT management infrastructures, improves system performance, maximizes the value of virtual server deployments, and reduces overall storage costs.

The 8/8 SAN Switch integrates innovative hardware and software features that make it easy to deploy, manage, and integrate into a wide range of IT environments. The 8 Gbit/sec Fibre Channel 8/8 Base SAN Switch provides a simple, affordable, single-switch solution for a new, small SAN installation and connects to storage and servers only. An optional Full Fabric SAN scaling license provides connectivity to other switches. The 8/8 SAN Switch has 8 active ports and can be connected to multiple switches and scale to full fabric limits as defined in the SAN Design Guide. Both new 8 port switches provide growth options with Ports On Demand, the ability to activate additional ports in 8 port increments to a maximum of 24 ports. This provides the flexibility to start small and grow storage networks in a non-disruptive manner. In addition, organizations can choose to initially deploy 4 Gbit/sec SFPs and upgrade to 8 Gbit/sec SFP+ at a later date when necessary.

The 8/8 SAN Switch significantly increases performance and functionality for SANs at an entry-level price. The 8/8 SAN Switch provides auto-sensing 1, 2, 4, and 8 Gbit/sec full duplex performance to enable up to 128 Gbit/sec of uncongested throughput. Auto-sensing and speed-matching of data traffic provides interoperability with previous 1, 2, and 4 Gbit/sec devices. To provide more targeted performance, enhanced Inter-Switch Link (ISL) Trunking combines up to eight ISLs between a pair of switches into a single, logical high-speed trunk capable of up to 64 Gbit/sec of throughput. The evolutionary design provides these capabilities while consuming less than 2.5 watts of power per port for exceptional power and cooling efficiency.

An optional enhanced Power Pack+ software bundle can be purchased separately and includes Fabric Vision, Fabric Watch, ISL Trunking, Extended Fabric and Advanced Performance Monitor. The software bundle provides the SAN administrator with the necessary tools to proactively monitor the health and performance thresholds of the network, while also ensuring the highest levels of security, scalability and manageability. Power Pack+ software enables infrastructure management through a single-pane-of-glass.



The 8 port 8 Gb/s 8/8 Base SAN Switch

What's New

- New RoHS compliant HP SAN switches

NOTE: Restriction of Hazardous Substances Directive or RoHS is a directive adopted by the European Union that restricts the use of certain hazardous materials in the manufacture of various types of electronic and electrical equipment. The RoHS compliant products with new part numbers listed in this document are functionally equivalent to the corresponding products with old part numbers and are fully interchangeable

Features and Benefits

Key Features and Benefits

- **Superior Performance**
  - 8Gb/s full duplex performance to enable up to 128 Gbit/s of uncongested throughput
  - Optional enhanced ISL Trunking combines up to eight ISLs between a pair of switches into a single, logical high-speed trunk capable of up to 64 Gbit/s of throughput
- **Superior Scalability**
  - Eight 8Gb/s ports expandable to 16 or 24 ports with the purchase of optional 8 port upgrade license
  - "pay as you grow" scalability from single-switch to full fabric connectivity
- **Reduced Total Cost of Ownership for SAN Infrastructure**
  - Enables storage consolidation, simplified management of data center SAN environment
- **Broadest range of compatibility with SAN products**
  - Multi-vendor server and storage environment
  - Widest range of HP SAN solutions
  - nteroperability with the more than 3.0 Million port HP SAN Switch installed base
- **HP Power Pack+ Software Bundle** (Optional) - Rich, feature packed software that provides the highest supported modular functionality. It includes
  - Fabric Vision
  - Trunking - highest throughput between switches
  - Proactive threshold monitor (Fabric Watch)
  - Advanced Performance Monitor
  - Extended Fabric
- **Broadest Range of HP Packaged SAN Services**
  - Mission critical SAN Services SAN-ES
  - Assessment and installation services for security
- **Flexible storage connectivity**
  - The only SAN solutions providing the complete HP SAN Switch functionality from Embedded to Enterprise. The HP SAN Switch value line products allows the capability to apply the complete SAN Switch functionality to an affordable entry level SAN deployment and then to grow that deployment to the largest SAN fabric solutions supported by HP.

Models

HP 8/8 SAN Switch Models	HP 8/8 Base (0) e-port SAN Switch	AM866B
	HP 8/8 (8) Full Fabric Ports Enabled SAN Switch	AM867B
	HP 8/8 and 8/24 SAN Switch 8Gb 8-port Upgrade RTU	T5518A
	HP 4/8 SAN Full Fabric Upgrade License	T4261A
	HP B-series 8-24-port SAN Switch Power Pack+ Upgrade LTU	T5521A

Product Highlights

24 non-blocking ports	Eight enabled ports with expandability to 16 or 24 ports; auto-sensing 2, 4, or 8 Gb universal, self-configuring ports (F, FL, E). Can be programmed to fixed 2 Gb, 4Gb, or 8Gb speed.
Configuration support	8/8 SAN Switch will interoperate with 1Gb ,2Gb, 4Gb, 8Gb/s B-Series SAN Switches running the firmware version as defined in the SAN Design Guide: http://www.hp.com/go/sandesignguide
High-availability features	• Hot Code Load Activation
Advanced Fabric Services	• Adaptive Networking (optional) • ISL Trunking (optional) • Hardware Enforced Zoning • Web Tools • Enhanced Group Management (EGM) • Fabric Watch (optional) • Advanced Performance Monitor (optional) • Extended Fabric (optional) • Server Application Optimization (optional) • SAN Network Advisor (optional)
Manageability	• Web Tools • Enhanced Group Management (EGM) • Radius • API • IP • SNMP
Scalability	• 8/8 Base SAN Switch has zero e-port connectivity and connects to storage or servers only (single-switch connectivity). An optional Full Fabric SAN scaling license provides connection to switches • 8/8 SAN Switch scales to the maximum limits defined in the SAN Design Guide: http://www.hp.com/go/sandesignguide
Cabinet Support	• HP 9000 and 10000 G1 Series (22U, 36U and 42U), HP System/e (25U, 33U and 41U), and HP 10000 G2 Series (22U, 36U, and 42U) and Intelligent Series racks. **NOTE:** To order factory integration, add 0D1 after the part number on your sales order.

Software Components

Frame Filtering	An ASIC based capability in the 8Gb family of switches that enables new applications and features. The switch now has the ability to "view" the first 64 bytes of the Fibre Channel frame. At this time, Frame Filtering enables advanced capabilities such as Advanced Zoning and Advanced Performance Monitoring.

Product Highlights

Advanced Zoning	WWN Zoning and Access Control are enforced by hardware that provides the same simple administration previously enforced only with software. Administrators can organize a physical fabric into logical groups and prevent unauthorized access by devices outside the Zone.
Web Tools	Enables organizations to monitor and manage single Fibre Channel switches and small SAN fabrics. Tasks can be performed through a Java-capable Web browser from a standard laptop, desktop PC or workstation from any location within the enterprise.
EGM	Enhanced Group Management (EGM) is a FOS license that is included with all B-Series switches and enables multi-switch operations. It helps automate operations across multiple switches to save time and streamline repetitive operations, which are typically prone to error. EGM drives consistency across fabrics, while minimizing the risk associated with potential downtime due to configuration mismatches. EGM provides streamlined troubleshooting for more effective fabric monitoring and diagnosis. Both SAN Network Advisor Professional and Enterprise enable EGM functionality. Customers have EGM functionality enabled within the hardware product and need only to make the decision around which management application is right for them - SAN Network Advisor Professional, Professional Plus, or Enterprise.
Adaptive Networking	Adaptive Networking (AN) is a family of technologies which allow flexible control of traffic movement within the fabric which deliver application aware management of fabric resources. Applications may be used with multiple protocols and multiple classes of service. It includes the following features: Ingress Rate Limiting: Allows the ingress bandwidth of a port to be throttled to a rate lower than negotiated with the SAN node. This could be very useful for enterprises offering stepped levels of service and enforcing SLAs. Quality of Service (QoS): Enables zones with high, medium, and low priorities within a fabric on a zone by zone basis. This can be very useful for prioritizing array replication over MANs and WANs over less critical traffic. Traffic Isolation Zones: Defines paths through a fabric for some or all nodes. Failover allows a non-preferred path to be used if the preferred fails. TIZs use failover by default but it can be disabled if traffic should stop if a preferred path fails. TIZ can be used to manually map out traffic flows within a fabric based on application, priority, and topology.

Product Highlights

Server Application Optimization

Server Application Optimization (SAO) license improves overall application performance for physical servers and virtual machines. SAO, when deployed with B-Series Fibre Channel HBAs, extends B-Series Adaptive Networking from the B-series SAN fabric to the server infrastructure. This delivers application-level, fine-grain Quality of Service (QoS) management to the HBAs and related server applications.

Solution Requirements:

- SAO license must be installed on the edge (server connected) switch
- Adaptive Networking (AN) license must be installed on the edge (server connected) switch
- SAO requires B-series HBA installed in the server

Software Components, Optional

SAN Switch Power Pack+ Software Bundle

Includes bundled license for:

- Fabric Vision
- ISL Trunking
- Advanced Performance Monitoring
- Fabric Watch
- Extended Fabric

Fabric Vision

Fabric Vision offers innovative diagnostic, monitoring and management capabilities to help accelerate new application deployments, address SAN problems before they impact operations and reduce operational costs. It Includes

- Monitoring and Alerting Policy Suite: A policy-based monitoring tool with pre-built rules and automation that simplifies fabric-wide threshold configuration and monitoring.
- Flow Vision: A comprehensive tool that enables administrators to identify, monitor, and analyze specific application data flows without using taps to ensure optimized performance
- Health and performance dashboard: A single customizable screen displayed in HP SAN Network Advisor that contains all critical SAN information for convenient review and analysis.

Fabric Vision will be included by default in all HP StoreFabric B-series Fibre Channel switches and Directors bundled with Power Pack+ (with FOS 7.2.0a and later). In all other cases, Fabric Vision can be enabled on HP StoreFabric B-series Fibre Channel switches and Directors in any one of the following ways

- Application of the Fabric Vision LTU (FOS 7.2.0a and later)
- Application of the Power Pack+ LTU (FOS 7.2.0a and later)
- Upgrading existing Switch/Director loaded with Power Pack+ to FOS 7.2.0a or later
- Upgrading existing Switch/Director loaded with both Advanced Performance Monitor (APM) and Fabric Watch (FW) licenses to FOS 7.2.0a or later

ISL Trunking

For high performance enhanced Trunking, this optional license logically groups up to eight E-ports to provide a high bandwidth trunk between two switches. Each 8 Gb switch needs its own license. The switch operating system views the trunk as a single, high bandwidth resource (up to 64 Gbit/s) when routing connections between switches. Connections are load-balanced across the individual links, which comprise the logical trunk group.

Product Highlights

Advanced Performance Monitoring	This enabling technology helps administrators monitor and watch specific fabric metrics -- from a SID (Source ID) to a DID (Destination ID) -- so they can fine-tune and scale the fabric more efficiently. Plus, Advanced Performance Monitoring includes the ability for early warning detection of hot spots within the fabric, a powerful tool for maintaining overall balanced performance. Top Talkers is a component of Advanced Performance Monitoring and tracks the top traffic flows for hosts and targets for a switch port or a switch. Top Talkers can help identify the ports that need certain Quality of Service (QoS) attributes or it can help determine portions of the physical topology that need reconfiguration.
Fabric Watch	Fabric Watch enables each switch to monitor the SAN for potential faults-and automatically alert network managers to problems before they become failures. Fabric Watch tracks a variety of SAN fabric elements, events, and counters. Monitoring fabric-wide events, ports, SFPs, and environmental parameters permits early fault detection and isolation as well as performance measurement. Each switch in the SAN needs its own Fabric Watch license.
Extended Fabric	Extends all of the scalability, reliability, and performance benefits of Fibre Channel Storage Area Networks (SANs) beyond the native 10 km distance specified by the Fibre Channel standard.
SAN Network Advisor Professional	HP SAN Network Advisor Professional is a management application available at no-charge and comes with B-series SAN Switches and: ● Allows management of a single Fabric OS (FOS) fabric (up to a 1,000 switch ports) at a time ● Performs group switch management beyond the scope of Web Tools ● Does not offer management of the SN8000B 8-Slot or DC SAN Backbone Directors It is targeted for SMB customers that use FOS based SAN fabrics and require a management solution for smaller SANs based on a single fabric. SMB customers that initially start off with SAN Network Advisor Professional and have a small SAN environment may over time feel the need for an enterprise-class product (SAN Network Advisor Enterprise) as their environments start to grow in size and complexity, and as they start to uptake more enterprise-class functionality (such as Fibre Channel Routing, FCIP, etc.). A non-disruptive upgrade path is available from SAN Network Advisor Professional to SAN Network Advisor Enterprise.

Product Highlights

SAN Network Advisor Enterprise and Professional+	HP SAN Network Advisor Enterprise and Professional+ are the enterprise-class products that support FOS products as well as FOS and M-EOS products together. SAN Network Advisor Enterprise provides complete SN8000B 8-Slot Director and DC SAN Backbone Director management including enterprise-class features/environments such as FICON, Fibre Channel Routing, FCIP, adaptive networking, etc while HP SAN Network Advisor Professional+ provides the same feature set except for support for the SN8000B 8-Slot Director, DC SAN Backbone Director, and FICON. HP SAN Network Advisor Enterprise delivers unprecedented scalability, up to 24 fabrics and 9,000 switch ports, while HP SAN Network Advisor Professional+ scales to 4 SAN Fabrics and 2560 switch ports. To accommodate growth, there is an upgrade available to SAN Network Advisor Enterprise from SAN Network Advisor Professional Plus. Both offerings provide brand-new features including Adaptive Networking features for quality of service, ingress rate limiting and traffic isolation zones.
Full Fabric License for 8/8 SAN Switch	Provides connectivity from zero e-ports to full fabric scaling. Please see the following web site for further information on supported configurations and SAN scalability: http://www.hp.com/go/sandesignguide
HP 8/8 8 port upgrade license	Optional 8 port increments on demand licenses for additional connectivity. Enables the 8, 16, and 24 universal (E,F and FL) port progression to scale up.

Service and Support, HP Care Pack, and Warranty Information

Warranty

(1-1-1) Hardware Warranty - One-year on-site warranty, normal business hours, next business day response, installation not included.
NOTE: The hardware warranty covers firmware and embedded non-saleable software. Saleable software carries its own warranty, see below.
Software Warranty - HP warrants only that the software media will be free of physical defects for a period of ninety (90) days from delivery. EXCLUSIVE REMEDY. The entire liability of HP and its suppliers and your exclusive remedy for software that does not conform to this Limited Warranty shall be the repair or replacement of the defective media. This warranty and remedy are subject to your returning the defective media during the warranty period to HP in the country in which you obtained the software.

For bundled Software Support

Your HP storage product includes comprehensive support and software updates to enhance the performance and availability of your software. Experienced Response Center engineers provide trustworthy advice on issues such as software features and use, problem diagnosis and resolution, and software defect identification.

Software support benefits include:

- Improved productivity of system managers and operators
- Improved system performance and reduced downtime due to software defects
- Expedited problem resolution through expert-level technical resources
- Software and documentation updates
- Electronic access to essential product and support information

For increased uptime, productivity and ROI -HP Care Pack packaged services for Storage

These days, you need to get the most out of your storage investment-you can't afford not to. When you buy HP storage products and solutions, it's also a good time to think about what levels of service and support you may need. To help take the worry out of deploying, designing, maintaining, and managing your environment, we've designed a portfolio of service options that are as: flexible, reliable and scalable as your storage. Unlike storage-only vendors, we take a holistic approach to your entire environment, bridging storage, servers, blades, software and network infrastructures with our HP Care Pack packaged services for Storage.

Protect your business beyond the warranty
When it comes to robustness and reliability, standard warranties on today's computing equipment have matured just as the technologies have matured. Good news on some fronts-but also a source of potential problems and subsequent consequences that come from depending on standard warranties alone. Standard warranty protects against product defects and some causes of downtime- but not the business. By using a standard approach to warranty uplifts, such as HP Care Pack Services, you can reduce downtime risks and be more certain of operational consistency for both mission-critical and standard business computing. Simply put, HP Care Pack Services normalize the warranty of combined products - helping you proactively guard against unplanned downtime.

Extending warranties with HP Care Pack Services

For cost-effective upgrading or extending your standard warranty, HP Care Pack Services offer a suite of standard reactive hardware and software support services that are sold separately, or combined as with our Support Plus and Support Plus 24 services. The portfolio also provides a combination of proactive and reactive services, such as Proactive 24 Service and Critical Service. In addition, with HP Proactive Select we offer an innovative approach to service delivery that gives you the flexibility to acquire the specific proactive services you need today, then add services as your needs evolve. HP Proactive Select offers a broad set of technical or per-event type service options - including server, storage, and network, SAN device, and software, environment, installation and education services. Services that you can mix and match depending on your specific requirements, from preliminary planning and equipment delivery to installation, configuration, integration, and testing, through every level of ongoing support. Our HP Care Pack packaged services for Storage assures help when you need it most. And for many products, post-warranty HP Care Pack Services are available

Service and Support, HP Care Pack, and Warranty Information

when your original warranty has expired.

HP Storage Services: Offering reliability, flexibility and value-just like your storage

HP Storage Services offers a full spectrum of customer care, from technology support to complex migrations to complete completely managed services. HP Factory Express provides customization, integration and deployment services for turnkey solutions. HP Education offers flexible, comprehensive training on storage networking, disk storage systems, and storage software to help your IT staff get the most out of your investments. And HP Financial solutions extend innovative financing and asset management programs to cost-effective buy, manage and eventually retire your older equipment.

HP Storage Services, the trusted business technology experts who manage your technology in action, because when technology works, business works. http://www.hp.com/services/storage
NOTE: Care Pack Services availability may vary by product and country.

HP Care Pack Services are sold by HP and HP Authorized Service Partners:

- Services for customers purchasing from HP or an enterprise reseller are quoted using HP order configuration tools.
- Customers purchasing from a commercial reseller can find HP Care Pack Services at http://h30125.www3.hp.com/csn/salesmktg/elfpack/elf_nonlkup_ctrylang.asp?code=ELNL

Recommended HP Care Pack Services for optimal satisfaction with your HP product.

Recommended Support

3-Year HP Support Plus 24

For a higher return on your storage investment, HP Support Plus 24 provides integrated hardware and software support services designed specifically for your technology. Available 24x7, this 3-year combined reactive support option delivers onsite hardware support and over-the-phone software support around-the-clock. Leverage the full strength of HP Technology Services - customers can trust the services professionals at HP to work collaboratively with them, putting our strategic and technical know-how to work across their entire infrastructure.

- Improve uptime with responsive hardware and software services
- Cost-effectively obtain expert multivendor support
- Enjoy consistent service coverage across geographically dispersed sites
- Update HP and selected third-party software at a predictable cost
- Take advantage of subscription savings on software updates
- Increase revenue-with access to world-class expertise without headcount implications
- Increase customer satisfaction-with no interoperability gaps

http://h20195.www2.hp.com/V2/GetPDF.aspx/5981-6638EN.pdf

Recommended Deployment

HP Enhanced Implementation Service for SANs

For customers who are building a new SAN or expanding their existing one, we offer the HP Enhanced Implementation Service for SANs. This provides complete design and implementation services for Fibre Channel, FCOE, FCIP, SAS and iSCSI SAN connectivity components. Covering all major SAN connectivity technologies including virtual as well as physical hosts, no competitor offers a more complete end to end SAN design and implementation service, ensuring comprehensive optimal SAN connectivity tailored to your specific environment.

- Ensures optimal SAN connectivity tailored to your specific environment.
- Allows your IT resources to stay focused on their core tasks and priorities

- Reduces implementation time, impact and risk to your storage environment
- Helps ensure a successful implementation for complex deployments by providing HP project management

http://h20195.www2.hp.com/v2/GetPDF.aspx/5981-8527EN.pdf

Related HP Care Pack Services that will enhance your HP product experience.

Related Services

3-Year HP Proactive 24 for SANs

As an alternative to our recommended support level, for customers who want improved SAN availability and access to a wide range of proactive and reactive services:

HP Proactive 24 Service for SANs is an integrated hardware and software support service that combines proactive problem prevention with responsive 24x7 assistance for rapid problem resolution.

A collaborative relationship with HP Services strengthens your IT team and gives you direct access to our technical expertise as issues arise.

Improve IT staff skills, increase SAN productivity.

Proactive 24 Service for SANs can help you:

- Enhance the skills and efficiency of your IT staff through knowledge transfer, shared best practices in storage management, and hands-on assistance
- Improve SAN availability through access to a wide range of proactive and reactive services
- Boost productivity through effective change management, configuration assistance, and performance optimization
- Increase the return on your SAN investment
- Enhance your overall operational effectiveness

Expert single-point-of-contact assistance 24x7

An assigned HP Services account manager is your primary contact for proactive services and access to HP's diverse technical resources. Your account manager works closely with your IT staff to understand your goals, document the components of your infrastructure, recommend changes to improve performance and stability, and monitor ongoing operations through HP's industry-leading remote monitoring and support tools.

http://h20195.www2.hp.com/V2/GetPDF.aspx/5982-6887EN.pdf

HP Assessment Service for SANs

For customers interested in improving availability of their SAN and decreasing potential for unplanned downtime:

The HP Assessment Service for SANs offers customized technical and operational guidance to customers employing HP storage subsystems and the interconnecting storage area network (SAN) infrastructure. In a typical engagement, HP or one of our authorized business partners will perform a detailed discovery using HP's proprietary toolset to gain an understanding of the configuration of your storage devices and SAN topology.

The findings from this process will be compared to HP best practices and industry standards as defined by IT Service Management (ITSM) disciplines. The results of the evaluation will be quickly and efficiently processed into information you can leverage. This information, in the form of a comprehensive HP SAN Assessment report, will be summarized by HP or one of our authorized business partners with recommendations that are intended to improve availability levels and ongoing management of your storage and SAN environment.

http://h20195.www2.hp.com/v2/GetPDF.aspx/4AA1-2941ENW.pdf

eSupport

HP eSupport is a portfolio of technology-based services that assist you with managing your business environment - from the desktop to the data center.

Support Portal
The HP support portal provides one-stop access to the information, tools and services you need to manage the daily operations of your IT environment.

Features include:

- Access to self-solve tools (including search technical knowledge base)
- Efficient logging and tracking of support cases
- Collaboration with other business and IT professionals
- Download of patches and drivers
- Access to diagnostic tools
- Proactive notification of relevant information

Access to certain features of the support portal requires an HP service agreement. To access the support portal, visit: http://www.hp.com/support

Remote Support Technology (RST)-HP Remote Support Pack
Taking a more proactive approach to IT support, the HP Remote Support pack plug-in module easily integrates with HP Systems Insight Manager to provide a powerful, unified "single pane of glass" solution for onsite and remote management.

HP Remote Support Pack enhances HP Systems Insight Manager with intelligent event diagnosis plus the automatic submission of hardware event notifications securely to HP support, including acknowledgment and status returns. It adds remote configuration collections to allow the delivery of assessment and proactive services for your SAN storage and HP-UX environments.

Customer Technical Training

Consider education as an integral part of your strategy to get the best return on investment for your HP storage solution. HP offers a variety of training courses on storage software, networking, archiving and disk storage systems. Our classes are available in many delivery modalities from traditional instructor-led courses at one of our 80 training centers worldwide to on-site training customized to your needs or online. www.hp.com/learn/storage

Service and Support, HP Care Pack, and Warranty Information

HP Services Awards

HP Services continues to be recognized for service and support excellence by customers, partners, industry organizations and publications around the world. Recent honors and award reflect our services team's dedications, technical expertise, professionalism and uncompromising commitment to customer satisfaction. For a list of all our awards, please visit
http://h20219.www2.hp.com/services/cache/433028-0-0-225-121.htm

Additional Services Information

For more information about HP Care Pack Services for Storage, please visit:
http://www.hp.com/services/storage

If you have specific questions, contact your local HP representative. Contact information for a representative in your area can be found at "Contact HP" http://www.hp.com

Family Information

Features	8/8 SAN Switch Base and 8/8 SAN Switch	8/24 SAN Switch Base	8/80 SAN Switch and 8/80 SAN Switch Power Pack+	SN6000B 16Gb FC Switch and SN6000B 16Gb FC Power Pack+
Targeted Environment	Workgroups, Departments	Workgroups, Departments	Workgroups, Departments	Workgroups, Departments
Fibre Channel Port Bandwidth	8Gbit/sec	8Gbit/sec	8Gbit/sec	16Gbit/sec
Aggregate device bandwidth	128 - 384 Gbit/sec full duplex	256 - 384 Gbit/sec full duplex	768 - 1280 Gbit/sec full duplex	384 - 768 Gbit/sec full duplex
OS Support	**NOTE:** Please Refer to SAN Design Guide http://www.hp.com/go/sandesign or http://www.hp.com/go/sandesignguide			
Storage system support	**3PAR StoreServ, StoreVirtual 4000, P9000/XP, P6000/EVA, P2000/MSA**			
FC Ports	8 Enabled 24 Max	16 Enabled 24 Max	48 Enabled 80 Max	24 or 48 Enabled 48 Max
SFP	B-series	B-series	B-series	B-series
Advanced Trunking	Optional Upgrade	Included with Power Pack+ or Optional Upgrade	Included with Power Pack+ or Optional Upgrade	Included with Power Pack+ or Optional Upgrade
Adaptive Networking	Included	Included	Included	Included
Form factor	1U	1U	2U	1U
Zoning Software	Yes (Included)	Yes (Included)	Yes (Included)	Yes (Included)
Hot plug, redundant power supplies	No	No	Yes	Yes
Hot plug fans	No	No	Yes	Yes (integrated with power supply)

Features	1606 Extension SAN Switch	Encryption SAN Switch
Targeted Environment	Data Centers	Data Centers
Fibre Channel Port Bandwidth	8Gbit/sec	8Gbit/sec
Ethernet	1Gbit/sec Ethernet	N/A
Aggregate device bandwidth		512 Gbit/sec full duplex
OS Support	**NOTE:** Please Refer to SAN Design Guide http://www.hp.com/go/sandesign or http://www.hp.com/go/sandesignguide	
Storage system support	**3PAR StoreServ, StoreVirtual 4000, P9000/XP, P6000/EVA, P2000/MSA**	
FC Ports	4 or 16 Enabled 16 Max	32 Enabled 32 Max
Ethernet Ports	2 or 6 Enabled 6 Max	N/A
SFP	B-series	B-series
Advanced Trunking	Included with Power Pack+ or Optional Upgrade	Optional Upgrade
Adaptive Networking	Included	Included

Family Information

Form factor	1U	2U
Zoning Software	Yes (Included)	Yes (Included)
Hot plug, redundant power supplies	Yes	Yes
Hot plug fans	Yes	

Features	SN8000B 8-Slot SAN Director Power Pack+	SN8000B 4-Slot SAN Director and 4-Slot SAN Director Power Pack+	DC SAN Backbone Director Power Pack+	DC04 SAN Director and DC04 SAN Director Power Pack+
Targeted Environment	Cloud Optimized Data Centers	Cloud Optimized Data Centers	Traditional Data Centers	Traditional Data Centers
Port Bandwidth	Up to 16Gbit/sec	Up to 16Gbit/sec	8Gbit/sec	8Gbit/sec
Aggregate device bandwidth	16.4 Tbit/sec full duplex	8.2 Tbit/sec full duplex	4.1 Tbit/sec full duplex	2 Tbit/sec full duplex
OS Support	**NOTE:** Please Refer to SAN Design Guide http://www.hp.com/go/sandesign or http://www.hp.com/go/sandesignguide			
Storage system support	**3PAR StoreServe, StoreVirtual 4000, P9000/XP, P6000/EVA, P2000/MSA**			
Ports	Up to 512 SFP	Up to 256 SFP	Up to 512	Up to 256
SFP	B-series	B-series	B-series	B-series
Advanced Trunking	Included with Power Pack	Included with Power Pack or Optional Upgrade	Included with Power Pack+	Included with Power Pack+ or Optional
Adaptive Networking	Included	Included	Included	Included
Form factor	14U	9U	14U	9U
Zoning Software	Yes (included)	Yes (included)	Yes (Included)	Yes (Included)
Hot plug, redundant power supplies	Yes	Yes	Yes	Yes
Hot plug fans	Yes	Yes	Yes	Yes

Features	Brocade 16Gb SAN Switch for HP c-Class BladeSystem	Brocade 8Gb SAN Switch for HP c-Class BladeSystem	B-Series Multi-protocol Router Blade	B-Series Multi-protocol Extension Blade
Targeted Environment	Datacenters, Workgroups, Departments	Workgroups, Departments	Data Centers	Data Centers
Port Bandwidth	16Gbit/sec	8Gbit/sec	4 Gbit/sec FC Ethernet: 1 Gbit/sec	8 Gbit/sec FC Ethernet: 1 or 10 Gbit/sec
Aggregate device bandwidth	896 Gbit/sec full duplex	384 Gbit/sec full duplex	N/A	N/A
OS Support	**NOTE:** Please Refer to SAN Design Guide http://www.hp.com/go/sandesign or http://www.hp.com/go/sandesignguide			
Storage system Support	**3PAR StoreServ, StoreVirtual 4000, P9000/XP, P6000/EVA, P2000/MSA**			
Ports	12 external /16 internal	4 or 8 external / 8 or 16 internal	18 ports: 16 FC and 2 Gigabit Ethernet	16 8Gb FC and 10 1GbE or 2 10GbE

Family Information

SFP	B-series	B-series	HP	B-series
Advanced Trunking	Included with Power Pack+ or Optional Upgrade	Included with Power Pack+ or Optional Upgrade	Optional Upgrade to chassis	Optional Upgrade to chassis
Adaptive Networking	Included	Included	Included	Included
Form factor	Embedded	Embedded	Blade in 4/256, DC SAN Back, or DC04 SAN Dir	Blade in SN8000B and DC SAN Directors
Zoning Software	Yes (Included)	Yes (Included)	Yes (Included)	Yes (Included)
Hot plug, redundant power supplies	Yes, in BladeSystem Enclosure	Yes, in BladeSystem Enclosure	Yes, in director chassis	Yes, in director chassis
Hot plug fans	Yes, in BladeSystem Enclosure	Yes, in BladeSystem Enclosure	Yes, in director chassis	Yes, in director chassis

Configuration Information

Step 1 - Base Configuration

Model Description	Part Number
HP 8/8 Base (0) e-port SAN Switch	AM866B
8/8 Base SAN switch with 8 active ports (zero e-port); rackmount kit, accessory kit (enterprise safety and regulatory information, installation guide, rack-mounting instructions), power cords, single power supply, serial cable, base software of Advanced Fabric OS, Advanced Web Tools, and Advanced Zoning **NOTE:** Requires optical transceivers listed below.	
HP 8/8 (8) Full Fabric Ports Enabled SAN Switch	AM867B
8/8 SAN switch with 8 active ports; rackmount kit, accessory kit (enterprise safety and regulatory information, installation guide, rack-mounting instructions), power cords, single power supply, serial cable, base software of Full Fabric, Advanced Fabric OS, Advanced Web Tools, and Advanced Zoning **NOTE:** Requires optical transceivers listed below.	
HP 8/8 and 8/24 SAN Switch 8Gb 8-port Upgrade RTU	T5518A
HP 4/8 SAN Full Fabric Upgrade License	T4261A
License for 8/8 Base (0) e-port SAN Switch (AM866B) to increase connectivity to Full Fabric connectivity	

Add Software	For Fabric OS (FOS) minimum requirements, please refer to: http://spock.corp.hp.com/	
B-series 8-24 Port SAN Switch Power Pack+ Upgrade LTU	HP B-series 8-24-port SAN Switch Power Pack+ Upgrade LTU Fabric Vision, Fabric Watch, ISL Trunking, Advanced Performance Monitoring and Extended Fabric **NOTE:** Adaptive Networking and Server Application Optimization features are included by default in the switch firmware (FOS 7.2.0a or later) and do not require a separate license	T5521A
Optional Software:	HP StoreFabric B-series 8Gb and 16Gb Entry Switch Fabric Vision LTU	TC509A
	HP B-series 8-24-port SAN Switch Adaptive Networking LTU	T5524A
	HP B-series 8-24 Port SAN Switch ISL Trunking LTU	T5527A
	HP B-series 8-24 Port SAN Switch Server Application Optimization LTU	TA756A
	HP B-series SAN Network Advisor Enterprise LTU	TC352A
	HP B-series SAN Network Advisor Professional Plus LTU	TC353A
	HP B-series SAN Network Advisor Professional Plus Upgrade LTU	TC354A
	HP Intelligent Infrastructure Analyzer Software v2 LTU	TC472A
	HP Intelligent Infrastructure Analyzer Software v2 E-LTU	TC472AAE

Configuration Information

Step 2 - Additional Options

Optical Transceivers

HP 8Gb Shortwave B-series Fibre Channel 1 Pack SFP+ Transceiver AJ716B

Distance- Maximum	OM2 Cable	OM3 Cable	PremierFlex Cable
8Gb performance:	50 meters	150 meters	150 meters
4Gb performance:	150 meters	380 meters	380 meters
2Gb performance:	300 meters	500 meters	500 meters

HP 8Gb Long Wave B-series 10km Fibre Channel 1 Pack SFP+ Transceiver AJ717A

HP B-series 8Gb Extended Long Wave 25km Fibre Channel SFP+ Transceiver 1 Pack AW538A

HP 4Gb Short Wave B-series Fibre Channel 1 Pack SFP Transceiver AJ715A

Distance- Maximum	OM2 Cable	OM3 Cable	PremierFlex Cable
4Gb performance:	150 meters	380 meters	380 meters
2Gb performance:	300 meters	500 meters	500 meters
1Gb performance:	500 meters	860 meters	860 meters

HP 4Gb Long Wave B-series 30km Fibre Channel SFP Transceiver 1 Pack AN211A

USB Device

HP B-series 2G USB Drive AK864B

Optical Cables

HP PremierFlex OM4+ Fiber Optic Cables

HP Premier Flex LC/LC Multi-mode OM4 2 fiber 1m Cable QK732A
HP Premier Flex LC/LC Multi-mode OM4 2 fiber 2m Cable QK733A
HP Premier Flex LC/LC Multi-mode OM4 2 fiber 5m Cable QK734A
HP Premier Flex LC/LC Multi-mode OM4 2 fiber 15m Cable QK735A
HP Premier Flex LC/LC Multi-mode OM4 2 fiber 30m Cable QK736A
HP Premier Flex LC/LC Multi-mode OM4 2 fiber 50m Cable QK737A

OM3 LC-LC type cables

HP LC to LC Multi-mode OM3 2-Fiber 0.5m 1-Pack Fiber Optic Cable AJ833A
HP LC to LC Multi-mode OM3 2-Fiber 1.0m 1-Pack Fiber Optic Cable AJ834A
HP LC to LC Multi-mode OM3 2-Fiber 2.0m 1-Pack Fiber Optic Cable AJ835A
HP LC to LC Multi-mode OM3 2-Fiber 5.0m 1-Pack Fiber Optic Cable AJ836A
HP LC to LC Multi-mode OM3 2-Fiber 15.0m 1-Pack Fiber Optic Cable AJ837A
HP LC to LC Multi-mode OM3 2-Fiber 30.0m 1-Pack Fiber Optic Cable AJ838A
HP LC to LC Multi-mode OM3 2-Fiber 50.0m 1-Pack Fiber Optic Cable AJ839A

Accessories

HP B-Series Switch Rack Mount Kit A7511A

NOTE: When any of the switch models listed above is ordered, an accessory kit which contains the Rack Mount Kit is included in the package by default. A7511A is required only when the original accessory kit or Rack Mount Kit is unavailable.

Fibre Channel Standards And Revisions

FC-AL Rev. 4.5	FC-GS-2 Rev 5.3	FC-PH Rev 4.3	FC-PLDA Rev 2.1	FC-VI Rev 1.5
FC-AL-2 Rev 7.0	FC-FG Rev 3.5	FC-PH-2 Rev 7.4	FC-SW Rev 3.3	IPFC RFC 2625
FC-FLA Rev 2.7	FC-FH Rev 1.7	FC-PH-3 Rev 9.4		

Technical Specifications

Fibre Channel ports	8 active with optional license to activate 24 universal ports
Scalability	0 E-port (8/8 Base) and scalable to Full fabric architecture with optional license: http://www.hp.com/go/sandesignguide
Certified maximum	Refer to SAN Design Guide for current configuration information: http://www.hp.com/go/sandesignguide
Interoperability	• 4/8 SAN Switch • 4/16 SAN Switch • 4/32 SAN Switch • 4/64 SAN Switch • Core Switch 4/64 • DC04 SAN Director • DC SAN Backbone Director • MSA SAN Switch 2/8 • SAN Switch 8/8 • SAN Switch 8/24 • SAN Switch 8/40 • SAN Switch 8/80 • ncryption SAN Switch • 1606 Extension SAN Switch • 2408 FCoE Converged Network Switch • Brocade 8Gb SAN Switch for HP BladeSystem c-Class • Brocade 4Gb SAN Switch for c-class HP BladeSystem • 400 MP Router • HP MP-Router • SN8000B Director • SN6500B Fibre Channel Switch • SN6000B Fibre Channel Switch • SN3000B Fibre Channel Switch
Performance	8 Gbit/sec line speed, full duplex
Switch core	Non-blocking
Fabric latency	700 nanoseconds with no contention, cut-through routing at 8 Gbit/sec
Maximum frame size	2112-byte payload
Classes of service	Class 2, Class 3, Class F (inter-switch frames)
Port types	FL_Port, F_Port, and E_Port; self-discovery based on switch type (U_Port)
USB	One USB port for system log file downloads or firmware upgrades
Data traffic types	Fabric switches supporting unicast, multicast (255 groups), and broadcast
Media types	B-Series Branded Small Form-Factor Pluggable (SFP)
Laser	Short-wave up to 1,640 ft (500 m); long-wave up to 18.6 mi (30 km)
Fabric services	Simple Name Server, Registered State Change Notification (RSCN), Alias Server (multicast); and Zoning, Web Tools, Enhanced group Management, Optional Fabric Watch, ISL Trunking, Adaptive Networking, Extended Fabric, Advanced Performance Monitor, and Server Application Optimization.
Options	SFP media, USB Device
Supported software	Telnet, RADIUS,SNMP, Web Tools, Enhanced Group Management, Advanced Zoning, Fabric Watch, Extended Fabric, Adaptive Networking, Advanced Performance Monitoring, ISL Trunking, Server Application Optimization, Fabric Manager, SAN Network Advisor

Technical Specifications

Management access	10/100 Ethernet (RJ-45), serial port		
Diagnostics	POST and embedded online/offline diagnostics		
Back-to-front airflow, power inlet on port side	1U		
Dimensions	**Width**	42.88 cm (16.88 inches)	
	Height	4.29 cm (1.69 inches)	
	Depth	30.66 cm (12.07 inches)	
	Weight	9.3 lbs with single power supply, without SFP/SFP+	
Environment	**Temperature**	**Operating**	0° to 40° C
		Non-operating	-25° to 70° C
	Humidity	**Operating**	10% to 85% (non-condensing)
		Non-operating	10% to 90% (non-condensing)
	Altitude	Up to 9,800 ft (3,000 m)	
	Shock	20 G, 6 ms, half sine	
	Vibration	**Operating**	.5 G sine, .4grms random 5-500Hz
		Non-operating	2 G sine, 5-500Hz
Power	**AC Input**	100 to 240 VAC nominal	
	Supported power range	**Nominal**	48 Watts
		Maximum	57 Watts
	Frequency	47 to 63 Hz	

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